

GHI Floor Seminars

Special seminar by invited speaker

Dirk Bumann

Biozentrum, University of Basel

Single-cell biology of *Salmonella* in infected host tissues

Pathogen properties in infected host tissues are crucial for disease and control. Novel single-cell technologies reveal an astonishing diversity of pathogen cells with disparate molecular compositions, fates, and impact on overall disease progression. A current key challenge is to understand the relation between these various pathogen subsets and their respective host microenvironments. As a first step towards this goal, we have implemented 3D imaging methods for infected tissues at nm to cm scales. We use these methods to determine how host structures modulate *Salmonella* sensitivity to antimicrobial chemotherapy. Our results show strong host impact across a wide range of scales and identify a particular compartment in spleen that provides a niche for long-term *Salmonella* survival during treatment with potent fluoroquinolone or beta-lactam antibiotics. The increasingly detailed understanding of important physico-chemical parameters in the host paves the way for establishing suitable in vitro models for in-depth molecular analysis under relevant in vivo-like conditions.

Host: Chiara Toniolo (McKinney lab)

Tuesday, February 20, 2018



12:15, SV 1717